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Client, Project and Location	Project Note	Delivery Order/Task Order
USACE New Bedford Resident Office ***New Bedford Harbor Superfund Site*** ***New Bedford, Massachusetts*** ***USACE Contract Number*** ***DACW33-03-D-0006***	***Note No.:*** 001	***TO 0005*** Project No. ***35-BG05-01***

Confirmation of	
☐ Project note-P1 ☐ Client Meeting-P4 ☒ Other	Date: July 17, 2007 Issued Recorded: Carl Wilson By
Subject **Collection of Elemental Mercury at the Aerovox Facility**	Issued By Mike Anderson Jacobs Project Manager

Item	Remarks	Action Required By
	Purpose: On Friday, 8 June 2007, Carl Wilson and Josh Cummings of Jacobs collected mercury within the Aerovox Facility. In past surveys, small containers of waste (loose) mercury were located in four known areas, a second floor stock room, the first floor shipping department and the first floor oil feed pump room, just outside the boiler room. Additionally, a spill caused by a broken manometer was identified during a demolition survey in the engineering store room of the first floor. The intent of this effort was to consolidate all the containers and collect the visible droplets from the spill caused by the broken manometer. A total of 16.6 pounds (7547.8 grams) of mercury and mercury containing devices were collected (Figure1). The containers were weighed on a lab scale, put into a re-sealable bag, labeled with the gross weight, then placed in a closed ice chest. The ice chest remains on a work table in the boiler room. In addition to the previously identified containers, two more were found at the oil feed pump room while gathering the other containers. These were put within the ice chest as well. While tracing what appeared to be tubing related to a manometer system, a	

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	second manometer and mercury spill was identified in the old styrene storage room on the first floor. This spill remains as the mercury could not be collected with the materials on hand. More amalgamating powder or a mercury vacuum cleaner is necessary to properly address the drops of mercury spread in a cardboard box, on a work bench and on the floor. The tubing was not part of a mercury device. However, the room appears to have been used for staging mercury containing devices as three electrical switches and an ignitron (Figures 4 and 5) were found in the box containing the broken manometer. The ignitron is a type of controlled rectifier used to convert alternating current to direct current in the thousands of amperes range. The mercury pool acted as the cathode in the device. Finding the ignitron raises the question of what devices used this component as well as others, such as possibly mercury arc valves (mercury vapor rectifier). Other mercury containing devices known or expected to be found in the Aerovox facility include HVAC switches and thermostats, boiler and flue gas controls, pressure reduction control valves, sump pumps, fire suppression systems and security systems. The amount of mercury collected to date is estimated to be one half or less of the quantity identified in the building. The remaining mercury and possibly unidentified sources of mercury, could be released into the environment due to vandalism or a fire resulting in potentially severe environmental damage. To put in perspective the magnitude of environmental damage a release of this size could cause, at the current MCL of 2 micrograms per liter of drinking water, approximately 950,000,000 gallons of water could be contaminated at the MCL should the mercury reach a ground water supply.	

Distribution:

NAE Concord:	Gary Morin, Mark Anderson, K.C. Mitkevicius, Mark Otis
NAE New Bedford:	Paul L'Heureux, Maurice Beaudoin,
EPA:	Jim Brown, Dave Dickerson
MassDEP:	Joe Coyne
Jacobs:	Mike Anderson, Steve Fox, Ken Gaynor, Josh Cummings, Caroline Roberts, Mark Gouveia, Anita Rigassio-Smith, Site File, Document Control

Photo Documentation of Mercury Collection (first round) at Aerovox

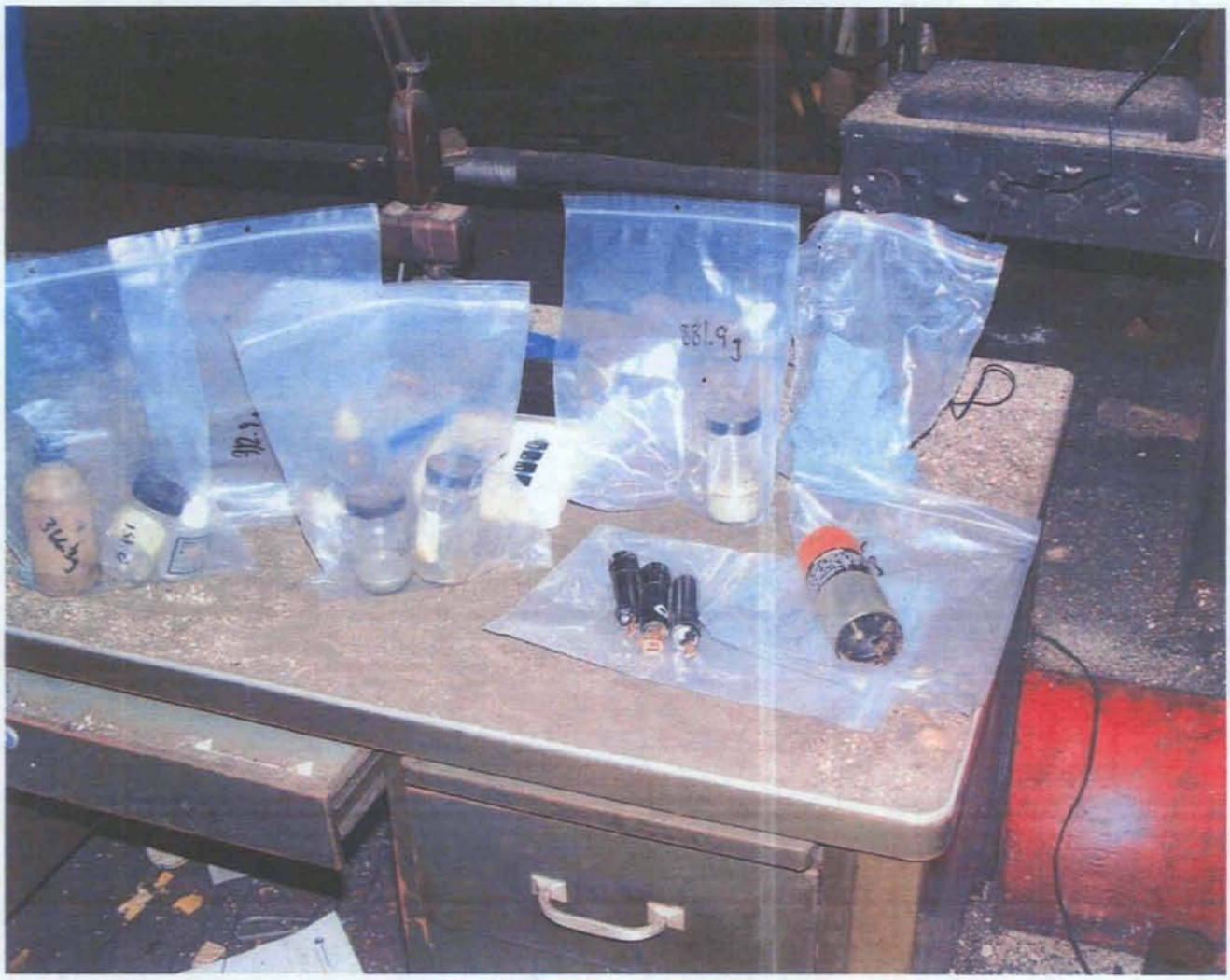

Figure 1 - Mercury Containers and Devices

Photo Documentation of Mercury Collection (first round) at Aerovox

Figure 2 Manometer Spill Before Cleaning

Figure 3 Post Cleanup of Manometer Spill

Photo Documentation of Mercury Collection (first round) at Aerovox

Figure 4 Ignitron

Figure 5 Ignitron Mercury Warning Label